09/148234
AH# 13

2-27-00

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    Set  Items  Description
    ---  -----  -----------
? s bone(w)morphogenesis(w)protein

<------User Break------>
u!
? s bone(w)morphogenesis(w)protein(w)2

      821087  BONE
       50463  MORPHOGENESIS
     2739130  PROTEIN
     6318619  2
  S1      0  BONE(W)MORPHOGENESIS(W)PROTEIN(W)2
? s bmp(w)2

Processing
        4379  BMP
     6318619  2
  S2    1287  BMP(W)2
? s bone(w)morphogen?(w)protein(w)2

Processing
      821087  BONE
       66427  MORPHOGEN?
     2739130  PROTEIN
     6318619  2
  S3    1433  BONE(W)MORPHOGEN?(W)PROTEIN(W)2
? s dna or plasmid or vector

     1538553  DNA
      184904  PLASMID
      194081  VECTOR
  S4 1710050  DNA OR PLASMID OR VECTOR
? s s2 or s4

        1287  S2
     1710050  S4
  S5 1711078  S2 OR S4
? s s2 or s3

        1287  S2
        1433  S3
  S6    1997  S2 OR S3
? s s4 and s6

     1710050  S4
        1997  S6
  S7     374  S4 AND S6
? s treat? or therap?

Processing
Processing
     4136386  TREAT?
     4453655  THERAP?
  S8 6841451  TREAT? OR THERAP?
? s s7 and s8

         374  S7
     6841451  S8
  S9     127  S7 AND S8
? rd

...examined 50 records  (50)
...examined 50 records  (100)
...completed examining records
  S10     83  RD (unique items)
? s s10 and py<=1997

Processing
Processing
        83  S10
  28071296  PY<=1997
  S11     32  S10 AND PY<=1997
? t s11/3,ab/1-32


11/3,AB/1    (Item 1 from file: 5)
DIALOG(R)File  5:Biosis Previews(R)
(c) 2000 BIOSIS. All rts. reserv.

11262784  BIOSIS NO.: 199800044116
Inhibition of rat vascular smooth muscle proliferation in vitro and in vivo
 by %%%bone%%% %%%morphogenetic%%%
%%%protein%%%-%%%2%%%.
AUTHOR: Nakaoka Takashi(a); Gonda Koichi; Ogita Teruhiko;
Otawara-Hamamoto
 Yoko; Okabe Fujiko; Harii Kiyonori; Miyazono Kohei; Takuwa Yoh; Fujita
 Toshiro
AUTHOR ADDRESS: (a)Dep. Intern. Med., Sch. Med., Univ. Tokyo,
3-28-6
 Mejirodai, Bunkyo-ku, Tokyo 112**Japan
JOURNAL: Journal of Clinical Investigation  100 (11):p2824-2832 Dec. 1,
1997
ISSN: 0021-9738
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Vascular proliferative disorders are characterized by the
 proliferation of vascular smooth muscle cells (SMCs) and excessive
 extracellular matrix synthesis. We found that %%%bone%%%
 %%%morphogenetic%%% %%%protein%%%-%%%2%%%
(%%%BMP%%%-%%%2%%%) inhibited
 serum-stimulated increases in %%%DNA%%% synthesis and cell number
of
 cultured rat arterial SMCs in a fashion quite different from that in the
 case of transforming growth factor-beta1 (TGF-beta1). in addition,
 TGF-beta1 stimulated collagen synthesis in SMCs, whereas
%%%BMP%%%-
 %%%2%%% did not. In an in vivo rat carotid artery balloon injury model,
 the adenovirus-mediated transfer of the %%%BMP%%%-%%%2%%%
gene inhibited
 injury-induced intimal hyperplasia. These results indicate that
%%%BMP%%%
 -%%%2%%% has the ability to inhibit SMC proliferation without
stimulating
 extracellular matrix synthesis, and suggest the possibility of
 %%%therapeutic%%% application of %%%BMP%%%-%%%2%%% for
the prevention of
 vascular proliferative disorders.


11/3,AB/2    (Item 2 from file: 5)
DIALOG(R)File  5:Biosis Previews(R)
(c) 2000 BIOSIS. All rts. reserv.

11178660  BIOSIS NO.: 199799799805
Cloning of mouse diastrophic dysplasia sulfate transporter gene induced
 during osteoblast differentiation by %%%bone%%%
%%%morphogenetic%%%
 %%%protein%%%-%%%2%%%.
AUTHOR: Kobayashi Tatsuya(a); Sugimoto Toshitsugu; Saijoh Kiyofumi;
Fukase
 Masaaki; Chihara Kazuo
AUTHOR ADDRESS: (a)Third Div., Dep. Med., Kobe Univ., Sch. Med.,
7-5-1
 Kusunokicho Chuo-ku, Kobe 650**Japan
JOURNAL: Gene (Amsterdam)  198 (1-2):p341-349 1997
ISSN: 0378-1119
RECORD TYPE: Abstract
LANGUAGE: English

ABSTRACT: Although intensive studies have been directed at understanding
 osteoblastic differentiation, the molecular mechanisms are still unclear.
 In this study, we describe a cDNA that encodes a sulfate transporter that
 was cloned as a gene induced in osteoblast precursor cells in association
 with osteoblastic differentiation. Based on the fact that %%%bone%%%
 %%%morphogenetic%%% %%%protein%%%-%%%2%%%
(%%%BMP%%%-%%%2%%%) induces
 osteoblastic phenotypes in immature mouse fibroblastic C3H10T1/2 cells,
 we performed a subtraction hybridization between
%%%BMP%%%-%%%2%%%-
 %%%treated%%% and untreated cells, and have isolated one clone
 (designated as st-ob for sulfate transporter in osteoblast) induced by
 %%%BMP%%%-%%%2%%% that is constantly expressed in osteoblastic
```

09/148234
2/27/00

Search Results - Record(s) 1 through 33 of 33 returned.

1. Document ID: US 6027919 A
Entry 1 of 33
File: USPT
Feb 22, 2000

US-PAT-NO: 6027919
DOCUMENT-IDENTIFIER: US 6027919 A

TITLE: BMP-12 and BMP-13 proteins and DNA encoding them

DATE-ISSUED: February 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	N/A	N/A
Wozney; John M.	Hudson	MA	N/A	N/A
Rosen; Vicki A.	Brookline	MA	N/A	N/A
Wolfman; Neil M.	Dover	MA	N/A	N/A
Thomsen; Gerald H.	Port Jefferson	NY	N/A	N/A
Melton; Douglas A.	Lexington	MA	N/A	N/A

US-CL-CURRENT: 435/69.7; 435/252.3, 435/320.1, 435/69.1, 514/2, 530/350, 530/399, 536/23.4, 536/23.5

ABSTRACT:

The present invention relates to a novel family of purified proteins, and compositions containing such proteins, which compositions are useful for the induction of tendon/ligament-like tissue formation, wound healing and ligament and other tissue repair. The present invention further relates to DNA molecules, vectors and host cells useful for production of such proteins.
20 Claims, 0 Drawing figures
Exemplary Claim Number: 1

2. Document ID: US 6027917 A
Entry 2 of 33
File: USPT
Feb 22, 2000

US-PAT-NO: 6027917
DOCUMENT-IDENTIFIER: US 6027917 A

TITLE: Bone morphogenetic protein (BMP)-17 and BMP-18 compositions

DATE-ISSUED: February 22, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	N/A	N/A
Murray; Beth L.	Arlington	MA	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/252.3, 435/325, 536/23.5, 536/23.51

ABSTRACT:

Purified BMP-17 and BMP-18 proteins and processes for producing them are disclosed. DNA molecules encoding the BMP-17 and BMP-18 proteins are also disclosed. The proteins may be used in the treatment of bone, cartilage, other connective tissue defects and disorders, including tendon, ligament and meniscus, in wound healing and related tissue repair, as well as for treatment of disorders and defects to tissues which include epidermis, nerve, muscle, including cardiac muscle, and other tissues and wounds, and organs such as liver, lung, epithelium, brain, spleen, cardiac, pancreas and kidney tissue. The proteins may also be useful for the induction of growth and/or differentiation of undifferentiated embryonic and stem cells.
17 Claims, 0 Drawing figures
Exemplary Claim Number: 1

3. Document ID: US 5986056 A
Entry 3 of 33
File: USPT
Nov 16, 1999

US-PAT-NO: 5986056
DOCUMENT-IDENTIFIER: US 5986056 A

TITLE: Chordin compositions

DATE-ISSUED: November 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
LaVallie; Edward R.	Tewksbury	MA	01876	N/A
Racie; Lisa A.	Acton	MA	01720	N/A

DeRobertis; Edward M.
Pacific Palisades
CA
90272
N/A

US-CL-CURRENT: 530/350; 435/69.1

ABSTRACT:

Purified chordin proteins and processes for producing them are disclosed. DNA molecules encoding
the chordin proteins are also disclosed. The proteins may be used in the treatment of bone,
cartilage, other connective tissue defects and disorders, including tendon, ligament and
meniscus, in wound healing and related tissue repair, as well for treatment of disorders and
defects to tissue which include epidermis, nerve, muscle, including cardiac muscle, and othe
tissues and wounds, and organs such as liver, brain, lung, cardiac, pancreas and kidney tissue.
The proteins may also be useful for the induction inhibition of growth and/or differentiation of
undifferentiated embryonic and stem cells. The proteins may be complexed with other proteins,
particularly members of the transforming growth factor-beta superfamily of proteins.
5 Claims, 0 Drawing figures
Exemplary Claim Number: 1

4. Document ID: US 5968752 A
Entry 4 of 33
File: USPT
Oct 19, 1999

US-PAT-NO: 5968752
DOCUMENT-IDENTIFIER: US 5968752 A

TITLE: Method for identifying an OP-1 analog which binds an ALK-1 receptor

DATE-ISSUED: October 19, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ichijo; Hidenori	Tokyo	N/A	N/A	JPX
Nishitoh; Hideki	Kanagawa-ken	N/A	N/A	JPX
Sampath; Kuber T.	Medway	MA	N/A	N/A

US-CL-CURRENT: 435/7.2; 435/7.1, 530/350

ABSTRACT:

Disclosed are (1) nucleic acid sequences, amino acid sequences, homologies, structural features,
and various other data characterizing morphogen cell surface receptors, particularly OP-1-binding
cell surface receptors, e.g., ALK-1; (2) methods for producing receptor proteins, including
fragments thereof, using recombinant DNA technology; (3) methods for identifying novel morphogen
receptors and their encoding DNAs; (4) methods for identifying compounds capable of modulating
endogenous morphogen receptor levels; and (5) methods and compositions for identifying and
producing morphogen analogs useful in the design of morphogen agonists and antagonists for
therapeutic, diagnostic, and experimental uses.
3 Claims, 3 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 2

5. Document ID: US 5965403 A
Entry 5 of 33
File: USPT
Oct 12, 1999

US-PAT-NO: 5965403
DOCUMENT-IDENTIFIER: US 5965403 A

TITLE: Nucleic acids encoding bone morphogenic protein-16 (BMP-16)

DATE-ISSUED: October 12, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	N/A	N/A
Murray; Beth L.	Arlington	MA	N/A	N/A

US-CL-CURRENT: 435/69.4; 435/252.3, 435/320.1, 435/325, 435/69.1, 435/69.7, 536/23.1 , 536/23.5,
536/23.51, 536/24.1

ABSTRACT:

Purified BMP-16 proteins and processes for producing them are disclosed. DNA molecules encoding
the BMP-16 proteins are also disclosed. The proteins may be used in the treatment of bone,
cartilage, other connective tissue defects and disorders, including tendon, ligament and
meniscus, in wound healing and related tissue repair, as well as for treatment of disorders and
defects to tissues which include epidermis, nerve, muscle, including cardiac muscle, and other
tissues and wounds, and organs such as liver, lung, cardiac, pancreas and kidney tissue. The
proteins may also be useful for the induction of growth and/or differentiation of
undifferentiated embryonic and stem cells.
14 Claims, 0 Drawing figures
Exemplary Claim Number: 1

6. Document ID: US 5948428 A
Entry 6 of 33

File: USPT

Sep 7, 1999

US-PAT-NO: 5948428
DOCUMENT-IDENTIFIER: US 5948428 A

TITLE: Compositions and therapeutic methods using morphogenic proteins and stimulatory factors

DATE-ISSUED: September 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lee; John C.	San Antonio	TX	N/A	N/A
Yeh; Lee-Chuan C.	San Antonio	TX	N/A	N/A

US-CL-CURRENT: 424/426; 523/114, 523/115, 530/353, 623/16

ABSTRACT:

The present invention provides pharmaceutical compositions comprising a morphogenic protein stimulatory factor (MPSF) for improving the tissue inductive activity of morphogenic proteins, particularly those belonging to the BMP protein family. Methods for improving the tissue inductive activity of a morphogenic protein in a mammal using those compositions are provided. This invention also provides implantable morphogenic devices comprising a morphogenic protein and a MPSF disposed within a carrier, that are capable of inducing tissue formation in allogeneic and xenogeneic implants. Methods for inducing local tissue formation from a progenitor cell in a mammal using those devices are also provided. A method for accelerating allograft repair in a mammal using morphogenic devices is provided. This invention also provides a prosthetic device comprising a prosthesis coated with a morphogenic protein and a MPSF, and a method for promoting in vivo integration of an implantable prosthetic device to enhance the bond strength between the prosthesis and the existing target tissue at the joining site. Methods of treating tissue degenerative conditions in a mammal using the pharmaceutical compositions are also provided.

78 Claims, 17 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 16

7. Document ID: US 5939388 A
Entry 7 of 33

File: USPT

Aug 17, 1999

US-PAT-NO: 5939388
DOCUMENT-IDENTIFIER: US 5939388 A

TITLE: Methods of administering BMP-5 compositions

DATE-ISSUED: August 17, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rosen; Vicki A.	Chestnut Hill	MA	02167	N/A
Wozney; John M.	Hudson	MA	01749	N/A
Wang; Elizabeth A.	Carlisle	MA	01741	N/A

US-CL-CURRENT: 514/12; 424/85.1, 514/2

ABSTRACT:

Purified BMP-5 proteins and processes for producing them are disclosed. The proteins may be used in the treatment of bone and/or cartilage defects and in wound healing and related tissue repair.

2 Claims, 0 Drawing figures
Exemplary Claim Number: 1

8. Document ID: US 5935852 A
Entry 8 of 33

File: USPT

Aug 10, 1999

US-PAT-NO: 5935852
DOCUMENT-IDENTIFIER: US 5935852 A

TITLE: DNA molecules encoding mammalian cerberus-like proteins

DATE-ISSUED: August 10, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Follettie; Maximillian	Belmont	MA	N/A	N/A
DeRobertis; Edward M.	Pacific Palisades	CA	N/A	N/A

US-CL-CURRENT: 435/325; 435/252.3, 435/252.33, 435/254.11, 435/320.1, 435/357, 435/358, 435/366, 536/23.1, 536/23.5, 536/24.31

ABSTRACT:

DNA molecules are disclosed which encode mammalian Cerberus-Like Proteins.

16 Claims, 0 Drawing figures
Exemplary Claim Number: 1

9. Document ID: US 5932216 A
Entry 9 of 33
File: USPT
Aug 3, 1999

US-PAT-NO: 5932216
DOCUMENT-IDENTIFIER: US 5932216 A

TITLE: Antibodies to bone morphogenetic protein-10 (BMP-10)

DATE-ISSUED: August 3, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	01749	N/A
Wozney; John M.	Hudson	MA	01749	N/A

US-CL-CURRENT: 424/158.1; 424/139.1

ABSTRACT:

Purified Bone Morphogenetic Protein-10(BMP-10) proteins and processes for producing them are disclosed. DNA molecules encoding the BMP-10 proteins are also disclosed. The proteins may be used in the treatment of bone and cartilage defects and in wound healing and related tissue repair.
2 Claims, 0 Drawing figures
Exemplary Claim Number: 1

10. Document ID: US 5928940 A
Entry 10 of 33
File: USPT
Jul 27, 1999

US-PAT-NO: 5928940
DOCUMENT-IDENTIFIER: US 5928940 A

TITLE: Morphogen-responsive signal transducer and methods of use thereof

DATE-ISSUED: July 27, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sampath; Kuber T.	Holliston	MA	N/A	N/A
Takeda; Kohsuke	Ichikawa	N/A	N/A	JPX
Ichijo; Hidenori	Tokyo	N/A	N/A	JPX

US-CL-CURRENT: 435/325; 435/320.1, 435/6, 435/7.1, 536/23.5, 536/24.31

ABSTRACT:

A novel gene, DD-10, and its encoded polypeptide chain, DD-10, expressed during early onset of morphogen-induced mammalian tissue morphogenesis, now has been discovered. Accordingly, the invention identifies a new gene which is a novel biological marker of cell differentiation and tissue morphogenesis, particularly of chondroblast or osteoblast cell differentiation and bone tissue morphogenesis. Disclosed are: (a) methods and compositions for screening for and producing morphogen analogs; (b) novel morphogen analogs; (c) downstream inducers of morphogenesis; (d) a novel marker for evaluating morphogen or morphogen analog dosing; and (e) therapeutic methods and compositions using these analogs and/or downstream inducers.
29 Claims, 13 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 13

11. Document ID: US 5916870 A
Entry 11 of 33
File: USPT
Jun 29, 1999

US-PAT-NO: 5916870
DOCUMENT-IDENTIFIER: US 5916870 A

TITLE: Compositions and therapeutic methods using morphogenic proteins and stimulatory factors

DATE-ISSUED: June 29, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lee; John C.	San Antonio	TX	N/A	N/A
Yeh; Lee-Chuan C.	San Antonio	TX	N/A	N/A

US-CL-CURRENT: 514/2; 514/21, 623/11, 623/12, 623/16

ABSTRACT:

The present invention provides pharmaceutical compositions comprising a morphogenic protein stimulatory factor (MPSF) for improving the tissue inductive activity of morphogenic proteins, particularly those belonging to the BMP protein family. Methods for improving the tissue inductive activity of a morphogenic protein in a mammal using those compositions are provided.

This invention also provides implantable morphogenic devices comprising a morphogenic protein and
a MPSF disposed within a carrier, that are capable of inducing tissue formation in allogeneic and
xenogeneic implants. Methods for inducing local tissue formation from a progenitor cell in a
mammal using those devices are also provided. A method for accelerating allograft repair in a
mammal using morphogenic devices is provided. This invention also provides a prosthetic device
comprising a prosthesis coated with a morphogenic protein and a MPSF, and a method for promoting
in vivo integration of an implantable prosthetic device to enhance the bond strength between the
prosthesis and the existing target tissue at the joining site. Methods of treating tissue
degenerative conditions in a mammal using the pharmaceutical compositions are also provided.
42 Claims, 12 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 12

12. Document ID: US 5902785 A
Entry 12 of 33
File: USPT
May 11, 1999

US-PAT-NO: 5902785
DOCUMENT-IDENTIFIER: US 5902785 A

TITLE: Cartilage induction by bone morphogenetic proteins

DATE-ISSUED: May 11, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hattersley; Gary	Cambridge	MA	N/A	N/A
Wolfman; Neil M.	Dover	MA	N/A	N/A
Morris; Elisabeth A.	Southboro	MA	N/A	N/A
Rosen; Vicki A.	Chestnut Hill	MA	N/A	N/A

US-CL-CURRENT: 514/2; 514/12, 514/8

ABSTRACT:

Compositions of proteins with cartilaginous tissue inducing and maintenance activity are
disclosed. The compositions are useful in the treatment of osteoarthritis, cartilage defects and
in related tissue repair.
6 Claims, 0 Drawing figures
Exemplary Claim Number: 1

13. Document ID: US 5854207 A
Entry 13 of 33
File: USPT
Dec 29, 1998

US-PAT-NO: 5854207
DOCUMENT-IDENTIFIER: US 5854207 A

TITLE: Compositions and therapeutic methods using morphogenic proteins and stimulatory factors

DATE-ISSUED: December 29, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Lee; John C.	San Antonio	TX	N/A	N/A
Yeh; Lee-Chuan C.	San Antonio	TX	N/A	N/A

US-CL-CURRENT: 514/2; 514/21

ABSTRACT:

The present invention provides pharmaceutical compositions comprising a morphogenic protein
stimulatory factor (MPSF) for improving the tissue inductive activity of morphogenic proteins,
particularly those belonging to the BMP protein family. Methods for improving the tissue
inductive activity of a morphogenic protein in a mammal using those compositions are provided.
This invention also provides implantable morphogenic devices comprising a morphogenic protein and
a MPSF disposed within a carrier, that are capable of inducing tissue formation in allogeneic and
xenogeneic implants. Methods for inducing local tissue formation from a progenitor cell in a
mammal using those devices are also provided. A method for accelerating allograft repair in a
mammal using morphogenic devices is provided. This invention also provides a prosthetic device
comprising a prosthesis coated with a morphogenic protein and a MPSF, and a method for promoting
in vivo integration of an implantable prosthetic device to enhance the bond strength between the
prosthesis and the existing target tissue at the joining site. Methods of treating tissue
degenerative conditions in a mammal using the pharmaceutical compositions are also provided.
28 Claims, 12 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 12

14. Document ID: US 5846770 A
Entry 14 of 33
File: USPT
Dec 8, 1998

US-PAT-NO: 5846770
DOCUMENT-IDENTIFIER: US 5846770 A

TITLE: DNA molecules encoding human chordin

DATE-ISSUED: December 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
LaVallie; Edward R.	Tewksbury	MA	N/A	N/A
Racie; Lisa A.	Acton	MA	N/A	N/A
DeRobertis; Edward M.	Pacific Palisades	CA	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/325, 435/69.7, 536/23.4, 536/23.5

ABSTRACT:

Purified chordin proteins and processes for producing them are disclosed. DNA molecules encoding
the chordin proteins are also disclosed. The proteins may be used in the treatment of bone,
cartilage, other connective tissue defects and disorders, including tendon, ligament and
meniscus, in wound healing and related tissue repair, as well as for treatment of disorders and
defects to tissues which include epidermis, nerve, muscle, including cardiac muscle, and other
tissues and wounds, and organs such as liver, brain, lung, cardiac, pancreas and kidney tissue.
The proteins may also be useful for the induction inhibition of growth and/or differentiation of
undifferentiated embryonic and stem cells. The proteins may be complexed with other proteins,
particularly members of the transforming growth factor-beta superfamily of proteins.
12 Claims, 0 Drawing figures
Exemplary Claim Number: 1

15. Document ID: US 5846931 A
Entry 15 of 33
File: USPT
Dec 8, 1998

US-PAT-NO: 5846931
DOCUMENT-IDENTIFIER: US 5846931 A

TITLE: Compositions comprising bone morphogenic proteins and truncated parathyroid hormone
related peptide and methods of inducing cartilage by administration of same

DATE-ISSUED: December 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hattersley; Gary	Cambridge	MA	02142	N/A
Rosen; Vicki A.	Chestnut Hill	MA	02167	N/A

US-CL-CURRENT: 514/2; 424/85.1, 514/12, 514/8, 530/300, 530/324, 530/350, 530/351, 530/397,
530/399

ABSTRACT:

Compositions of proteins with chondrocyte and cartilaginous tissue inducing activity, as well as
method of using those compositions, are disclosed. The compositions comprise one or more proteins
of the transforming growth factor-.beta. (TGF-.beta.) superfamily of proteins, particularly bone
morphogenetic proteins (BMPs), in combination with parathyroid hormone related polypeptide
(PTHrP) or an equivalent PTH-like polypeptide. The compositions and methods are useful in the
treatment of osteoarthritis, cartilage defects and in related tissue repair.
7 Claims, 0 Drawing figures
Exemplary Claim Number: 1

16. Document ID: US 5830761 A
Entry 16 of 33
File: USPT
Nov 3, 1998

US-PAT-NO: 5830761
DOCUMENT-IDENTIFIER: US 5830761 A

TITLE: Medium and methods for culturing mammalian cho cells

DATE-ISSUED: November 3, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Drapeau; Denis	Salem	NH	N/A	N/A
Adamson; S. Robert	Chelmsford	MA	N/A	N/A
Luan; Yen-Tung	Chelmsford	MA	N/A	N/A
Thoday; Paul	Sterling	MA	N/A	N/A

US-CL-CURRENT: 435/404; 435/358

ABSTRACT:

Cell culture media are provided containing high L-cystine concentration and low L-glutamic acid
concentration. The media are useful for recombinant production of proteins

using mammalian cell
cultures.
16 Claims, 0 Drawing figures
Exemplary Claim Number: 1

17. Document ID: US 5804416 A
Entry 17 of 33
File: USPT
Sep 8, 1998

US-PAT-NO: 5804416
DOCUMENT-IDENTIFIER: US 5804416 A

TITLE: Mutants of bone morphogenetic proteins

DATE-ISSUED: September 8, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wolfman; Neil M.	Dover	MA	N/A	N/A
McCoy; John	Reading	MA	N/A	N/A

US-CL-CURRENT: 435/69.1; 530/333, 530/350, 530/399

ABSTRACT:

DNA molecules encoding mutant forms of bone morphogenetic proteins (BMP) are disclosed. The
mutant forms of BMP can be produced bacterially and refolded to produce biologically active
homodimers or heterodimers of BMP. A method of making such mutant BMPs is also disclosed.
2 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

18. Document ID: US 5756457 A
Entry 18 of 33
File: USPT
May 26, 1998

US-PAT-NO: 5756457
DOCUMENT-IDENTIFIER: US 5756457 A

TITLE: Neural regeneration using human bone morphogenetic proteins

DATE-ISSUED: May 26, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wang; Elizabeth A.	Carlisle	MA	N/A	N/A
D'Alessandro; Josephine S.	Marblehead	MA	N/A	N/A
Toriumi; Dean M.	Riverside	IL	N/A	N/A

US-CL-CURRENT: 514/12; 424/422, 424/423, 606/152

ABSTRACT:

Methods and devices are disclosed for inducing growth of neural cells, and repairing neural
defects in a mammal. The method comprises administering to said mammal at the site of neural
defect, damage or depletion, an effective amount of a bone morphogenetic protein, either in
admixture with a pharmaceutically acceptable vehicle, or adsorbed to a suitable matrix. The
device comprises bone morphogenetic protein, optionally in combination with other factors,
adsorbed on a suitable matrix and contained within an artificial nerve replacement vessel.
17 Claims, 0 Drawing figures
Exemplary Claim Number: 1

19. Document ID: US 5756308 A
Entry 19 of 33
File: USPT
May 26, 1998

US-PAT-NO: 5756308
DOCUMENT-IDENTIFIER: US 5756308 A

TITLE: Refolding variant of bone morphogenetic protein-8

DATE-ISSUED: May 26, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wolfman; Neil M.	Dover	MA	N/A	N/A
McCoy; John	Reading	MA	N/A	N/A

US-CL-CURRENT: 435/69.1; 530/333, 530/399, 536/23.5

ABSTRACT:

DNA molecules encoding mutant forms of bone morphogenetic proteins (BMP) are disclosed. The
mutant forms of BMP can be produced bacterially and refolded to produce biologically active
homodimers or heterodimers of BMP. A method of making such mutant BMPs is also disclosed.
4 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

20. Document ID: US 5728679 A
Entry 20 of 33
File: USPT
Mar 17, 1998

US-PAT-NO: 5728679
DOCUMENT-IDENTIFIER: US 5728679 A

TITLE: BMP-15 compositions

DATE-ISSUED: March 17, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	N/A	N/A
Dube; Jennifer L.	Arlington	MA	N/A	N/A
Lyons; Karen M.	Sherman Oaks	CA	N/A	N/A
Hogan; Brigid	Brentwood	TN	N/A	N/A

US-CL-CURRENT: 514/12; 424/484, 530/350, 530/387.1, 530/395, 530/399

ABSTRACT:

Purified BMP-15-related proteins and processes for producing them are disclosed. DNA molecules
encoding the BMP-15-related proteins are also disclosed. The proteins may be used in the
treatment of bone and cartilage and/or other connective tissue defects and in wound healing and
related tissue repair.
12 Claims, 0 Drawing figures
Exemplary Claim Number: 1

21. Document ID: US 5703043 A
Entry 21 of 33
File: USPT
Dec 30, 1997

US-PAT-NO: 5703043
DOCUMENT-IDENTIFIER: US 5703043 A

TITLE: Bone morphogenetic protein-10 (BMP-10) compositions

DATE-ISSUED: December 30, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	N/A	N/A
Wozney; John M.	Hudson	MA	N/A	N/A

US-CL-CURRENT: 514/12; 435/69.1, 530/399, 536/23.5, 930/120

ABSTRACT:

Purified Bone Morphogenetic Protein-10 (BMP-10) proteins and processes for producing them are
disclosed. DNA molecules encoding the BMP-10 proteins are also disclosed. The proteins may be
used in the treatment of bone and cartilage defects and in wound healing and related tissue
repair.
9 Claims, 0 Drawing figures
Exemplary Claim Number: 1

22. Document ID: US 5700774 A
Entry 22 of 33
File: USPT
Dec 23, 1997

US-PAT-NO: 5700774
DOCUMENT-IDENTIFIER: US 5700774 A

TITLE: Compositions comprising bone morphogenic proteins and truncated parathyroid hormone
related peptide, and methods of inducing cartilage by administration of same

DATE-ISSUED: December 23, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hattersley; Gary	Cambridge	MA	N/A	N/A
Rosen; Vicki A.	Chestnut Hill	MA	N/A	N/A

US-CL-CURRENT: 514/2; 514/12, 514/8, 530/350, 530/397, 530/399

ABSTRACT:

Compositions of proteins with chondrocyte and cartilaginous tissue inducing activity, as well as
method of using those compositions, are disclosed. The compositions comprise one or more proteins
of the transforming growth factor-.beta. (TGF-.beta.) superfamily of proteins, particularly bone
morphogenetic proteins (BMPs), in combination with parathyroid hormone related polypeptide
(PTHrP) or an equivalent PTH-like polypeptide. The compositions and methods are useful in the
treatment of osteoarthritis, cartilage defects and in related tissue repair.
17 Claims, 0 Drawing figures

Exemplary Claim Number: 1

23. Document ID: US 5700911 A
Entry 23 of 33
File: USPT
Dec 23, 1997

US-PAT-NO: 5700911
DOCUMENT-IDENTIFIER: US 5700911 A

TITLE: Bone morphogenetic protein -11 (BMP-11) compositions

DATE-ISSUED: December 23, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wozney; John M.	Hudson	MA	N/A	N/A
Celeste; Anthony J.	Hudson	MA	N/A	N/A

US-CL-CURRENT: 530/350; 435/69.4, 530/399, 930/120

ABSTRACT:

Purified Bone Morphogenetic Protein-11(BMP-11) proteins and processes for producing them are
disclosed. Recombinant DNA molecules encoding the BMP-11 proteins are also disclosed. The
proteins may be useful in regulating follicle stimulating hormone, such as for contraception. In
addition, the proteins may be useful for the induction of bone, cartilage and/or other connective
tissue.
12 Claims, 0 Drawing figures
Exemplary Claim Number: 1

24. Document ID: US 5658882 A
Entry 24 of 33
File: USPT
Aug 19, 1997

US-PAT-NO: 5658882
DOCUMENT-IDENTIFIER: US 5658882 A

TITLE: Methods of inducting formation of tendon and/or ligament tissue comprising administering
BMP-12, BMP-13, and/or MP-52

DATE-ISSUED: August 19, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	N/A	N/A
Wozney; John M.	Hudson	MA	N/A	N/A
Rosen; Vicki A.	Brookline	MA	N/A	N/A
Wolfman; Neil M.	Dover	MA	N/A	N/A
Thomsen; Gerald H.	Port Jefferson	NY	N/A	N/A
Melton; Douglas A.	Lexington	MA	N/A	N/A

US-CL-CURRENT: 514/12; 435/252.3, 435/320.1, 435/375, 435/69.1, 514/2, 514/8, 530/350 , 530/399,
536/23.4, 536/23.5

ABSTRACT:

The present invention relates to methods for the induction of tendon/ligament-like tissue
formation, wound healing and ligament and other tissue repair, using a composition comprising
BMP-12, BMP-13 or MP-52, or combinations of the above.
20 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

25. Document ID: US 5645084 A
Entry 25 of 33
File: USPT
Jul 8, 1997

US-PAT-NO: 5645084
DOCUMENT-IDENTIFIER: US 5645084 A

TITLE: Method for spinal fusion without decortication

DATE-ISSUED: July 8, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
McKay; William F.	Memphis	TN	N/A	N/A

US-CL-CURRENT: 128/898; 435/69.1, 606/76

ABSTRACT:

Surgical procedures for stabilizing a spine include exposing a portion of each of adjacent
vertebrae requiring fusion and placing an osteoinductive material within an

area between the
portions of the adjacent vertebrae in contact with the cortical bone of the portions. In another
aspect, surgical procedures for stabilizing a spine are provided which include exposing a portion
of each of adjacent vertebrae requiring fusion, adding an osteoinductive cytokine to a carrier
material and placing the carrier material between the portions of the adjacent vertebrae in
contact with the cortical bone of the portions.
28 Claims, 0 Drawing figures
Exemplary Claim Number: 1

26. Document ID: US 5639638 A
Entry 26 of 33
File: USPT
Jun 17, 1997

US-PAT-NO: 5639638
DOCUMENT-IDENTIFIER: US 5639638 A

TITLE: DNA molecules encoding bone morpogenetic protein-11

DATE-ISSUED: June 17, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wozney; John M.	Hudson	MA	N/A	N/A
Celeste; Anthony J.	Hudson	MA	N/A	N/A

US-CL-CURRENT: 435/69.4; 435/252.3, 435/320.1, 435/325, 435/358, 435/360, 435/364, 530/399,
536/23.4, 536/23.51, 930/120

ABSTRACT:

Purified Bone Morphogenetic Protein-11 proteins and processes for producing them are disclosed.
Recombinant DNA molecules encoding the BMP-11 proteins are also disclosed. The proteins may be
useful in regulating follicle stimulating hormone, such as for contraception, and for the
induction of bone, cartilage and/or other connective tissue.
17 Claims, 0 Drawing figures
Exemplary Claim Number: 14

27. Document ID: US 5637480 A
Entry 27 of 33
File: USPT
Jun 10, 1997

US-PAT-NO: 5637480
DOCUMENT-IDENTIFIER: US 5637480 A

TITLE: DNA molecules encoding bone morphogenetic protein-10

DATE-ISSUED: June 10, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	N/A	N/A
Wozney; John M.	Hudson	MA	N/A	N/A

US-CL-CURRENT: 435/69.4; 435/252.3, 435/320.1, 435/325, 435/360, 435/364, 435/365.1, 530/399,
536/23.4, 536/23.51, 930/10

ABSTRACT:

Purified Bone Morphogenetic Protein-10 proteins and processes for producing them are disclosed.
Recombinant DNA molecules encoding the BMP-10 proteins are also disclosed. The proteins may be
used in the treatment of bone and cartilage defects and in wound healing and related tissue
repair.
17 Claims, 0 Drawing figures
Exemplary Claim Number: 14

28. Document ID: US 5635372 A
Entry 28 of 33
File: USPT
Jun 3, 1997

US-PAT-NO: 5635372
DOCUMENT-IDENTIFIER: US 5635372 A

TITLE: BMP-15 compositions

DATE-ISSUED: June 3, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Celeste; Anthony J.	Hudson	MA	N/A	N/A
Dube; Jennifer L.	Arlington	MA	N/A	N/A
Lyons; Karen M.	Sherman Oaks	CA	N/A	N/A
Hogan; Brigid	Brentwood	TN	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/252.3, 435/320.1, 435/325, 435/358, 435/360, 536/23.4, 536/23.5

ABSTRACT:

Purified BMP-15-related proteins and processes for producing them are disclosed. DNA molecules
encoding the BMP-15-related proteins are also disclosed. The proteins may be used in the
treatment of bone and cartilage and/or other connective tissue defects and in wound healing and
related tissue repair.
17 Claims, 0 Drawing figures
Exemplary Claim Number: 1

29. Document ID: US 5516654 A
Entry 29 of 33
File: USPT
May 14, 1996

US-PAT-NO: 5516654
DOCUMENT-IDENTIFIER: US 5516654 A

TITLE: Production of recombinant bone-inducing proteins

DATE-ISSUED: May 14, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Israel; David I.	Concord	MA	N/A	N/A

US-CL-CURRENT: 435/69.1; 435/70.3

ABSTRACT:

A process for increasing the yield of recombinant bone-inducing proteins of the BMP-2 family is
provided, wherein dextran sulfate is added to the culture medium in which cells expressing the
proteins are grown.
1 Claims, 0 Drawing figures
Exemplary Claim Number: 1

30. Document ID: US 5385887 A
Entry 30 of 33
File: USPT
Jan 31, 1995

US-PAT-NO: 5385887
DOCUMENT-IDENTIFIER: US 5385887 A

TITLE: Formulations for delivery of osteogenic proteins

DATE-ISSUED: January 31, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yim; Kalvin W. K.	N. andover	MA	N/A	N/A
Huberty; Michael C.	Andover	MA	N/A	N/A
Northey, Jr.; Richard P.	Ipswich	MA	N/A	N/A
Schrier; Jay A.	Andover	MA	N/A	N/A

US-CL-CURRENT: 514/12; 106/645, 424/423, 424/426, 514/21, 514/8, 530/350, 530/397, 530/399,
530/840

ABSTRACT:

A composition is disclosed comprising a pharmaceutically acceptable admixture of an osteogenic
protein; a porous particulate polymer matrix; an osteogenic protein-sequestering amount of blood
clot; and a calcium sulfate hemihydrate-containing substance. Also disclosed are formulations of
bone morphogenetic proteins with improved solubility and/or stability characteristics.
7 Claims, 0 Drawing figures
Exemplary Claim Number: 1

31. Document ID: US 4455256 A
Entry 31 of 33
File: USPT
Jun 19, 1984

US-PAT-NO: 4455256
DOCUMENT-IDENTIFIER: US 4455256 A

TITLE: Bone morphogenetic protein

DATE-ISSUED: June 19, 1984

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Urist; Marshall R.	Pacific Palisades	CA	N/A	N/A

US-CL-CURRENT: 530/350; 424/549, 530/355, 530/417, 530/422, 530/840, 623/11, 623/16

ABSTRACT:

Bone morphogenetic protein (BMP) made by the process comprising the steps of demineralizing bone
tissue; treating the demineralized bone tissue under aqueous conditions with a water soluble
neutral salt and a solubilizing agent for the BMP, the agent being selected from the group
consisting of urea and guanidine, and thereby transforming the bone collagen to gelatin and
extracting BMP into the solution of solubilizing agent; and separating the solubilizing agent and
neutral salt from the solution, thereby precipitating BMP in the aqueous

medium, and the BMP has
a molecular weight in the range of 1,000-100,000.
20 Claims, 1 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

32. Document ID: US 5700911 A
Entry 32 of 33
File: DWPI
Dec 23, 1997

DERWENT-ACC-NO: 1998-062433
DERWENT-WEEK: 199806
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TITLE: Human and bovine bone morphogenetic protein 11 - useful for inducing bone and cartilage
formation
INVENTOR: CELESTE, A J; WOZNEY, J M

PRIORITY-DATA:
1994US-0247907 May 20, 1994
1993US-0061464 May 12, 1993
1995US-0452772 May 30, 1995

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5700911 A	December 23, 1997	N/A	019	C07K014/51

INT-CL (IPC): C07K 14/51

ABSTRACTED-PUB-NO: US 5700911A
BASIC-ABSTRACT:

The following are claimed: (1) a purified BMP-11 polypeptide [BMP = bone morphogenetic protein]
consisting of amino acids 1-109 of a 126 residue sequence [bovine BMP-11]; (2) a purified BMP-11
polypeptide consisting of amino acids 1-109 of 362 residue sequence [human BMP-11]; (3) a
purified BMP-11 polypeptide stated to be as in (2) where the polypeptide is a dimer in which each
subunit consists of at least amino acids 1-109 of bovine BMP-11; (4) a purified BMP-11
polypeptide stated to be as in (2) where the polypeptide is a dimer in which one subunit consists
of at least amino acids 1-109 of bovine BMP-11 and the other subunit comprises an amino acid
sequence of BMP-1, BMP-2, BMP-3, BMP-4, BMP-5, BMP-6, BMP-7, BMP-8, BMP-9 or BMP-10. All
sequences are given in the specification.

USE - The human BMP-11 polypeptide [mature human BMP-11] or its dimers with other inhibin- beta ,
inhibin- alpha or bone morphogenetic proteins is useful for inducing bone and/or cartilage
formation, e.g. for bone, ligament or cartilage repair, wound healing or treatment of periodontal
disease.

33. Document ID: US 5639638 A
Entry 33 of 33
File: DWPI
Jun 17, 1997

DERWENT-ACC-NO: 1997-332045
DERWENT-WEEK: 199730
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TITLE: DNA encoding bone morphogenetic protein 11 polypeptide(s) - useful for regulating
follicle-stimulating hormone
INVENTOR: CELESTE, A J; WOZNEY, J M

PRIORITY-DATA:
1994US-0247907 May 20, 1994
1993US-0061464 May 12, 1993

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5639638 A	June 17, 1997	E	020	C07K014/51

INT-CL (IPC): C07K 14/51; C12N 15/16; C12N 15/85

ABSTRACTED-PUB-NO: US 5639638A
BASIC-ABSTRACT:

Isolated DNA molecules encoding two bone marrow morphogenic protein -11 (BMP-11) polypeptides are
new, where one comprises nucleotides 375-704, or 390-704 of a defined 789 bp sequence given in
the specificatio n, and the other comprises nucleotides 760-1086, or 775-1086 of a defined
sequence of 1270 bp given in the specification. Also claimed are: (1) cells transformed with the
DNA; (2) vectors containing the DNA; (3) cells transformed with the vector of (2); (4) the
polypeptide s encoded by the DNA, with the 109 amino acid mature protein sequences from the 126
and 362 amino acid sequences given in the specification; (5) a homodimer of the human
polypeptide; (6) a heterodimer comprising the human polypeptide and a subunit of BMP-1, BMP-2,
BMP-3, BMP-4, BMP-5, BMP-6, BMP-7, BMP-8, BMP-9 or BMP-10; and (7) a chimeric DNA molecule
comprising a DNA sequence encoding a propeptide of a member of the transforming growth factor-
beta (TGF- beta) superfamily of proteins linked in frame to a BMP-11 coding sequence as above.

USE - The polypeptides may be useful for regulating follicle-stimulating hormone, e.g. for the
purpose of contraception or for inducing bone, cartilage and/or other connective tissue
formation. The polypeptides are produced by culturing the cells of (1) or (3), followed by
recovering and purifying the BMP-11 sequence from the culture medium (claimed).